Report on Science Issues Related to Delta Conveyance Options for California Water Supply

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Purpose

- To identify key scientific and technical issues regarding alternate Delta conveyance configurations for State and federal water project operations for future California water supply

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Workshop 1: Isolated Facility Participants

- Dan Odenweller, CV RWQCB
- Dennis Majors, MWDSC
- William Bennett, UCD
- Samuel Luoma, USGS
- Richard Howitt, UCD
- Jerry Johns, DWR
- Wim Kimmerer, SFSU

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Workshop 2: Through-Delta Participants

- Ron Ott, CALFED Science Program
- Denise Reed, UNO
- Pete Smith, USGS
- Robin Stewart, USGS
- Matt Nobriga, CALFED Science Program
- Bruce Herbold, US EPA

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Key Messages

- A clear articulation of the desired objectives for each Delta conveyance alternative is crucial for meaningful understanding of the technical questions involved and satisfactory resolution of conflicting outcomes

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Key Messages

- Every conveyance option has benefits, risks, and uncertainties – an Isolated Facility is not a “silver bullet” for solving all Delta-based ecological and water supply problems

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Key Messages

- An integrative program of data collection, analysis, synthesis, and forecasting for populations and habitats of interest will help managers understand ecosystem and population response to management actions

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Key Messages

- There is no “non-impact” alternative for exporting water from the Delta regardless of location, configuration, or operation

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Key Messages

- Entrainment will be a characteristic of any conveyance system and will have to be addressed regardless of configuration

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Key Messages

- From an ecological perspective it is difficult to say whether a particular species will benefit from, or be harmed by, the construction and operation of alternative conveyance infrastructure

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Key Messages

- Bay-Delta water quality discussions need to consider more completely the Bay and coastal ocean (both as independent drivers and recipients). The Delta and the Bay are intimately interconnected

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Key Messages

- There is a trade-off between obtaining higher quality Sacramento River export water using an Isolated Facility and increased discharge of lower quality San-Joaquin River water into the Delta

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Key Messages

- Hydrodynamic modeling is critical for full evaluation of alternate conveyance in the Delta, and existing modeling capacity in the Delta will benefit from improved coordination and revitalization

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Key Messages

- Both local and regional analyses are needed to assess operational consequences of conveyance options. For example, Delta Cross Channel operations have local (e.g. entrainment) and regional (e.g. water quality) effects

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Key Messages

- Physical (hydrodynamic) understanding and predictability of the Estuary is greater than biological (ecological) understanding or predictability – and will likely remain so

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Key Messages

- Current public funding mechanisms for an Isolated Facility are inadequate for underwriting “up-front” construction costs. A system of soliciting up-front user financing could provide an alternative

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Key Messages

- Any alternative to through-Delta conveyance will take decades to construct. Even if it is decided to proceed with an isolated facility it will be necessary to make through-Delta conveyance work as effectively as possible for many years

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Key Messages

- A flexible or modular approach to designing and constructing an Isolated Facility is important for maintaining an adaptive management capability over the period of transition from the current through-Delta conveyance, and must continue for the lifetime of water conveyance management

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Key Messages

- Bay-Delta (CALFED) science infrastructure can evaluate effects of proposed alternatives for export and conveyance, but cannot provide “the answer” with regard to conveyance infrastructure construction options – this is ultimately a policy choice

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Best Use of Science Advice

- Specific comments on specific system alterations that are within current experience and understanding
- Evaluating veracity of competing claims of association, correlation, and causation
- Commenting on underlying assumptions

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